Tuning Of AGC Of Interconnected Reheat Thermal Systems With Geneticalgorithms

Abdel-Magid, Y.L. Dawoud, M.M.;King Fahd Univ. of Pet.Miner., Dhahran;
Systems, Man and Cybernetics, 1995. Intelligent Systems for the 21st Century., IEEE International conference;Publication Date: 22-25 Oct 1995;Vol: 3,On page(s): 2622-2627 vol.3;ISBN: 0-7803-2559-1
King Fahd University of Petroleum & Minerals

Summary

This paper deals with the application of genetic algorithms for optimizing the automatic generation control (AGC) systems. An integral controller and a proportional-plus-integral controller are considered. A two-area reheat thermal system is considered to exemplify the optimum parameter search. A digital simulation is used in conjunction with the genetic algorithm optimization process. The integral of the square of the error and the integral of time-multiplied absolute value of the error performance indices are considered in the search for the optimal AGC parameters. The results reported in this paper demonstrate the effectiveness of the genetic algorithms in the tuning of the AGC parameters